

REMARKS

Reconsideration of the present application is respectfully requested. Claims 4, 7 and 15 have been canceled. Claims 1, 2, 3, 6, 9, 11, 13, 16, 19 and 20 have been amended. Claim 21 is newly added. No new matter has been added.

Claims 1-20 stand rejected under 35 U.S.C. § 103(a) as being unpatentable over U.S. Publication 2002/0056126 of Srikantan et al. (hereinafter "Srikantan").

Srikantan is discussed below with regard to Applicants' amended claims. First, however, note that a key objective of Applicants' invention is to reduce bursts in streaming media data traffic, in order to reduce congestion of downstream routers, servers, etc., particularly when a large number of clients have requested the same media data stream at substantially the same time. Such congestion can result in degradation in the quality and smoothness of the data streams that are ultimately delivered to the clients. See Applicants' specification, paragraphs [06] – [07].

In contrast, Srikantan's main purpose is to more economically manage resource consumption (e.g., CPU, memory, etc.) on the streaming server in relation to per-track metadata. See Srikantan at paragraph [0004]. Srikantan does not address the problem of reducing burst traffic or of reducing congestion in downstream network nodes generally.

In particular embodiments of the present invention, congestion in downstream nodes is reduced by reducing streaming media burst traffic, and more specifically, by

adding to each packet's specified delivery time a delay value that has been pseudo-randomly selected for each client. This technique virtually ensures that even if a large number of clients (e.g., 10,000 or more) request the same data stream at the same time, there will not be a large number of clients assigned the exact same delivery time for a given data packet. This technique, therefore, has the effect of spreading the delivery times of a given data packet for multiple clients substantially evenly throughout a given time window, thereby reducing burst traffic.

With more specific reference to Applicants' claims now, claim 16 (as amended) recites:

16. (Currently amended) A method for reducing peak output traffic bursts in a processing system where a first packet of data is scheduled to be delivered to more than one downstream client system substantially simultaneously, the method comprising:

modifying a specified packet delivery time of the first packet of data for delivery of the first packet of data to a first downstream client system, **by pseudo-randomly selecting a first delay value and adding the first delay value to the specified packet delivery time of the first packet of data;** and

modifying the specified packet delivery time of the first packet of data for delivery of the first packet of data to a second downstream client system, **by pseudo-randomly selecting a second delay value and adding the second delay value to the specified packet delivery time of second first packet of data.** (Emphasis added).

Srikantan does not disclose or suggest such a method. In particular, Srikantan does not disclose or suggest modifying the specified delivery time of a data packets by pseudo-randomly selecting a delay value and adding it to the specified delivery time of the packet, as recited in claim 16. Srikantan further does not disclose or suggest pseudo-randomly selecting such a delay value separately for each of multiple clients, as

recited in claim 16 (i.e., first delay value being associated with the first downstream client system, second delay value being associated with the second downstream client system).

The Examiner contends that Srikantan discloses pseudo-randomly selecting a delay value in paragraphs [0036], [0046] and/or [0053] (page 3 of Final Office Action, in rejecting claims 4 and 15). However, that contention is incorrect. There is no hint of pseudo-random selection of a delay value for a packet delivery time in the cited paragraphs or anywhere else in Srikantan, nor is that inherent in the technique disclosed in Srikantan. Furthermore, that also would not be obvious in view of Srikantan, given that Srikantan does not attempt to address (or even hint at) the problem which the present invention solves, i.e., reducing burst traffic of streaming media data to reduce congestion in downstream nodes.

For at least these reasons, therefore, claim 16 and all claims which depend on it are patentable over Srikantan.

Independent claims 1 and 9 include similar limitations to those in claim 16 discussed above and are, therefore, also patentable over Srikantan along with all of their dependent claims.

Dependent Claims

In view of the above remarks, a specific discussion of the dependent claims is considered to be unnecessary. Therefore, Applicants' silence regarding any dependent

claim is not to be interpreted as agreement with, or acquiescence to, the rejection of such claim or as waiving any argument regarding that claim.

Conclusion


For the foregoing reasons, the present application is believed to be in condition for allowance, and such action is earnestly requested.

If there are any additional charges, please charge Deposit Account No. 02-2666.

Respectfully submitted,

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